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Bureau and the Princeton Community

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Princeton, Illinois, with its surrounding economic tributary area, is a small but more or less typical section of the Corn Belt of the United States. The area is monotonously level (Fig. 1). Low farm buildings in the midst of spreading groves blend into the landscape, scarcely raising the general level of the scene. From their shade the busy inhabitants of the area, with continuous activity, are engaged in those processess which result in cultivated modification of the uniformity. Bridges rise in wide arcs to carry roads over the railroad which traverses the area. These bridges are vantage points; from them one may see many miles in every direction, and fast approaching trains can be spotted several minutes before they arrive. On a clear day the distant debris piles of the coal mines dotting the Northern Illinois (LaSalle) field serrate the eastern horizon, towards which the broad swells of the nearly level terrain flow irregularly, suggesting the gentle rollers of an unbroken, oily sea. The monotonous uniformity of the landsurface is emphasized by the monotonous uniformity of the cultivated fields, for cropped land covers the greater part of the area. A mosaic of crops is hardly appreciated from a single point, for the smaller grains are shut in, in the warmer season, by the sea of green, luxuriant corn. From any one stand, field of maize follows field of maize to the limits of vision, corn waving in the wind, accentuating the uniformity of the landsurface.

The area, which we may call Bureau, following the designation accorded it by the earliest settlers, is in a sense, a living organism, with close affinities with surrounding areas; it is hardly distinguishable from them, like a polyp in a mass of coral. Roads running from the town penetrate the outlying districts, uniting them to

Princeton. Along any road one comes after seven or eight miles, at the most, to a place beyond which the people cease to think of Princeton as their market center except for certain light purchases; they take their grain and livestock to a nearer railroad station, and thence take their heavier purchases. Thus is circumscribed, in vague outline, the Princeton area. Its limits are not distinct, for everywhere its cultural features merge with the similar cultural features of areas dependent upon nearby towns. The town, the economic, social, and political center of the area, represents the heart of the organism. Roads are arteries. The area as a whole is the body, within which the people stream like corpuscles, surging back and forth, building and destroying, modifying the body in which they move. All this activity is directed towards one end, the making of a living. It is this unanimity of purpose, this circumscription of the area, and the centrality of Princeton which give Bureau a congruity that allows it to be spoken of as a unified, economically functioning organism.

The circumscription of Bureau by the boundaries of neighboring areas, each dependent upon its own railroad center, must be kept in mind, for it means that through Princeton there is but a small area united by close ties to the Chicago market. This distinguishes Bureau from the self-sufficing area, now rare, which is touched hardly at all by the affairs of the world. As a result of the close link between the business of the area and that of the United States, or of the world, Bureau has features which might otherwise be lacking, such as well-developed roads and railroads, and the fact must be borne in mind, if the cultural aspects of the landscape of the area are to be understood rightly.

We cannot think of Princeton as static. Its very activity, its trade, and the people who surge through its stores, banks, and offices suggest that it is dynamic. More than that, too, the whole area is in a process of evolution; we have but caught a fleeting glimpse of it, as it were. Day before yesterday it was a frontier community, struggling with hostile Indians and the difficulties of bringing a new land under cultivation. The rude beginnings of a town were visible. Tomorrow, who can say? In the rapidly developing economy of the United States, sections rise and decline in importance with little forewarning. The cultural landscape at the present time is but the expression of a step in an evolutionary process, whatever the future may have of growth or decay. The appraisal of this landscape, the appraisal of the effect upon the

natural landscape of the present position of Princeton in the economic organization of the country is our chief concern. The activities of the inhabitants both within and without the town, have modified the *natural* landscape, so that the *cultural* landscape has characteristics from which one may read the story of the life of the community. The people of the area in their endeavor to wrest a living from the soil have written the tale of their struggle in the land. Fields, houses, roads, the town, etc., are the witnesses of this struggle. These cultural features are the expression in the landscape of living facts—facts which are bound together in a unified whole by their mutual dependence.

THE FUNDAMENT

In order to understand the occupance of Bureau and the landscape that has resulted from the imprint made by that occupance on the "natural" landscape, it is necessary to know the nature not only of the cultural landscape, as an abstraction, but also of the so-called natural landscape.

The "natural landscape" as it was at the epoch of occupance may be called the *fundament,* reserving the term *natural landscape* itself for those unaltered portions of the fundament which sometimes remain embedded in the *cultural landscape* of an area. In Bureau, the reconstruction of the fundament is a relatively simple matter, for occupance has not greatly diminished the deductive value of certain salient features of the land. Historical references, soils, the remains of plant indications of the original vegetation, and the very slowly changing landsurface conditions make it possible to sketch the fundament of Bureau. Where these conditions have been more nearly obliterated than they have in the Princeton area, then, to complete the primary portion of the two-fold landscape picture of land, in the widest sense, and occupance and cultural imprint, it may be necessary to conceive an abstract natural landscape. In the case of Bureau, the fundament may be reconstructed with a fair degree of certainty to take the place of that abstraction.

The Prairie.—The most striking characteristic of the area settled by the nucleus of people who originated the Princeton community was the prairie.[1] Something like two-thirds of the State

[1]The Transition Prairie-Forest District of Harshberger in *Phytogeographic Survey of North America,* Vol. 13 of Engler and Drude, *Die Vegetation der Erde,* Leipzig and New York, 1911, p. 519.

of Illinois was originally prairie, in contrast to the prevailing forest of the states farther east. In Bureau two separate prairies existed. Although the original distinguishing vegetation has disappeared, at least as far as present geographical significance is concerned, the prairie boundaries may be reconstructed from the prairie-soil characteristics which remain unaltered in spite of the change in vegetation cover. Soils are classified genetically in terms of those features of climate and vegetation under which they have developed and by which they have been so profoundly influenced that characteristics obtain among them at maturity that are independent of those of the material from which they have been derived.[2] Thus, where the original soil-influencing vegetation has been destroyed, it may be restored theoretically, and, with the support of various historical references, a fairly accurate picture of its original extent may be drawn.

Of the two prairies which comprised Bureau, one lay to the east and one to the west of the oak woods along Bureau Creek. In the original vegetation of Illinois, a pronounced feature was the development of an invading oak woods along the streams;[3] the drainage pattern is axial to the pattern of "forest" distribution, and these woods pretty largely remain today, at least in essential outline. Thus, the individual prairies were hemmed in by woods; they were confined to the uplands for the most part as was noticed by Whitney in his attempted explanation of their occurrence.[4] East Bureau prairie filled the upland between Bureau Creek and the next affluent of the Illinois to the east; West Bureau prairie spread from Bureau Creek to West Bureau Creek and southward to the confluence of those two streams. To the north, both the Bureau prairies merged with the larger prairies beyond, except that the dividing woods of Bureau Creek approached on the east side those of East Bureau Creek and on the west side those of Lime Creek, a tributary of West Bureau (Fig. 10). In this way, two rather distinct areas of grass existed side by side, separated and almost surrounded by the oak woods which extended along watercourses northward from the Illinois River.

The evidence for the foregoing statement of the extent of the

[2]Shantz and Marbut, *Vegetation and Soils of Africa,* New York, 1923, pp. 115-121; Glinka, K. D., *Die Typen der Bodenbildung,* Berlin, 1914, p. 7. The latter reference has perhaps the clearer statement.

[3]Harshberger, *loc. cit.*

[4]Whitney, J. D., *Plain, Prairie, and Forest,* Cambridge (Mass.), 1876.

prairie at the epoch of occupance comes from the map and discussion of Bureau County soils by Mosier and others[5] and from the books dealing with the early history of Bureau County.[6] The soil report gives not only a careful discussion of the qualities of the two types of soil found in the county but also a carefully drawn map of their distribution. Matson was an original settler in Bureau and some thirty to forty years after the date of settlement could recall events and persons experienced and known in his young manhood; these are recorded in his books cited. Although his memory may have failed with reference to details, it is probably reliable for general statements of conditions at the time of settlement.

Landsurface and Drainage.—The Bureau prairies and the soils developed under their luxuriant mantle of tall grass occupy upland portions of the Princeton area, as has been suggested already. The landsurface of Bureau is a nearly level or slightly undulating plain in which the only pronounced topographic breaks are the deeply incised valleys of the larger streams and their tributaries. It is in the simple drainage pattern, then, that will be found the secret of the distribution of various classes of vegetation and soils and in the streams making that pattern the chief agent in the formation of the numerous topographic details and the few minor subdivisions of the landsurface.

The initial surface is of glacial origin (Fig. 2).[7] Inconspicuous, but important, elements of that surface are the two low ridges of the Bloomington moraine lying immediately west and immediately east of Bureau as herein defined. Between the two, and forming the basis of the Bureau prairies, is an intermorainal area of loess-covered Early Wisconsin till. The gradual general slope of the till area is from north to south in this section, from slightly more than seven hundred feet above sea level in the north to

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[5]*Bureau County Soils,* University of Illinois, Agricultural Experiment Station, Soil Report No. 20, Urbana (Ill.), 1921.

[6]Matson, Nehemiah, *Reminiscences of Bureau County,* Princeton (Ill.), 1872, and *Map and Sketches of Bureau County,* Chicago, 1867; Smith, I. B., *Sketches of the Early Settlement of Princeton, Illinois, with a Sketch of Bureau County,* Princeton (Ill.), 1857; Bradsby, H. C., *History of Bureau County,* Chicago, 1885; Harrington, George B., *Past and Present of Bureau County, Illinois,* Chicago, 1906.

[7]Leverett, Frank, *The Illinois Glacial Lobe,* U. S. G. S. Monographs, No. 38, Washington, 1899, pp. 240-266 and 512-513.

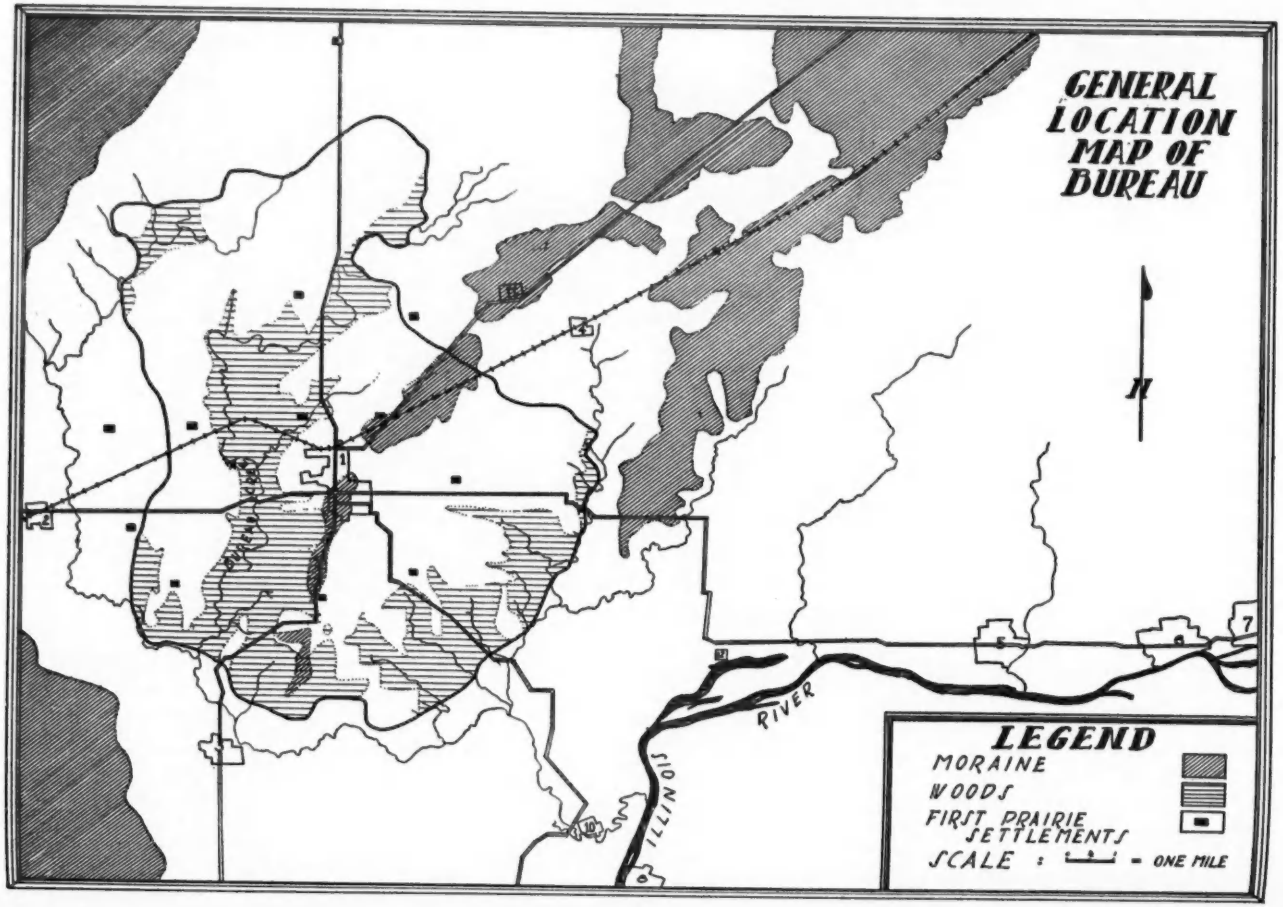
GENERAL LOCATION MAP OF BUREAU
N
ILLINOIS RIVER
LEGEND
MORAINE
WOODS
FIRST PRAIRIE SETTLEMENTS
SCALE : — = ONE MILE

FIGURE 2—Map showing the location of Bureau with reference to LaSalle, the other towns mentioned in the text, the Illinois River, and the glacial features of the region. The distribution of woods and early prairie settlements within and near Bureau (1867) is shown (after Matson, *Map and Sketches of Bureau County*). 1, Princeton; 2, Wyanet; 3, Tiskilwa; 4, Malden; 5, Spring Valley; 6, Peru; 7, LaSalle; 8, Hennepin; 9, Kasbeer; 10, Bureau; 11, Dover.

about six hundred fifty feet in the south. On this slope Bureau Creek developed a as major consequent stream (Fig. 2). West of Bureau Creek another consequent formed against the base of the western limb of the Bloomington moraine, gathering from it many western tributaries. This is West Bureau Creek, which lies for the most part outside of Bureau. East of Bureau still another consequent stream developed against the moraine of that section. This is East Bureau Creek. Three rivers, thus, rose in the intermorainal area, and these with their insequents are responsible for most of the topographic details of the Princeton area.

Bureau Creek is the only one of the consequent streams that has any considerable importance in the development of topographic forms in Bureau, for it is the only one of the three which cuts across the whole area. Rising in shallow swales northeast of Bureau, its three or more headwater streams have united before they enter the area in an incised trench from half to three-quarters of a mile wide and some eighty to one hundred feet in depth. The trench is deepened downstream, and as Bureau Creek flows along the south side of East Bureau prairie the uplands north and south[5] rise more than one hundred fifty feet above the level of its flood-plain and low terraces. Throughout its length of ten miles in Bureau, the river has but one important tributary, Epperson Run. Across East Bureau prairie sprawls a slightly developed branch of the main part of the Bloomington morainic system that lies east of Bureau. This low, subordinate moraine enters Bureau on the northeast, advances southwestward almost to Bureau Creek, and then turns southward along the edge of the upland bordering the east bluff of that stream. Subparallel to the axis of this moraine lies Epperson Run in juxtaposition to it. The remainder of the tributaries to Bureau Creek, with but few exceptions, are relatively short insequents, not much more than two or three miles in total length, occupying ravines cut in the west flank of the southern portion of the moraine just described. The valleys of

[5]These southern uplands are, of course, outside of Bureau.

Bureau Creek and its tributaries are the major topographic details of an otherwise only slightly featured upland surface and the development of these details is a matter of some importance in the chorography of Bureau.

Throughout its intrenched length across the Princeton area, Bureau Creek is aggraded (Fig. 3). The load of detritus that it was forced to carry during the ice age was too great for its present diminished volume, so that it has the character of an underfit stream. The floodplains are narrow, but terraces rise from five to ten feet above them and extend away from the stream from a quarter to half a mile or more on each side. Before the river had cut below the level of its former floodplain, it had begun to meander, so that details of the slopes and reentrants in the bluff, as well as meander scars on portions of its terrace may be related to this former habit. North of the confluence of Epperson Run, just west of Princeton, the valley of Bureau Creek is narrower as compared to portions just above and below. Here the crescentic reentrants excavated in the upland by meanders formerly swung against it account for local widenings in the valley. The intermediate cusps of the west side approaching the straighter east side bluff, separate adjacent lobate areas of terrace, as where the main line of the Chicago, Burlington, and Quincy Railroad crosses Bureau Creek (Fig. 2). Three miles northwest of Princeton the valley is wider again; where a tributary enters from the north (Section 36, T 17 N, R 9 E), the creek is rapidly undercutting the bluff on the south side, whereas it has abandoned a wide stretch of terrace on the north side. This bit of terrace is filled with meander scars. From this point upstream, in the northeast-southwest portion of Bureau Creek reentrants and cusps follow in regular succession along the south and east bluffs and somewhat less conspicuously along the north and west bluffs.

South of the confluence of Epperson Run, the valley of Bureau Creek is notably wider and deeper. Although the downstream deepening of the valley, from above the confluence, is gradual, the widening is sudden. The valley floor is nearly a mile wide and the reentrant and cusp marks of former meanders are much less conspicuous than they are north of Princeton, though here and there faint suggestions of them remain; apparently the development of ravines on the east side has helped obliterate these evidences of earlier meandering. However, two or three widenings, separated by ill-defined and blunted cusps, indicate the habit of

FIGURE 1—General view of a part of the Princeton area

the stream. This wider valley is in distinct contrast to the wide, but less deep and more clearly meander-marked upper part.

The two Bureau prairies, owing their landsurface to glacial deposition, have as a result numerous swales and undrained depressions. These not only account for local variations in the flora of the fundament, for local variations in the texture and

FIGURE 3—East Bureau Creek, showing the general character of aggradation in the major streams of Bureau.

water content of the soil, but also for details of crop growth and land use. In addition they are more or less conspicuous features, partly for themselves and partly because they are frequently occupied by wet weather ponds. West Bureau prairie, within the limits of the Princeton area, is hardly touched by insequents draining these depressons, but in East Bureau on the west, south, and east of its southern part (i. e. south of a line drawn straight east from Princeton) there are not less than a dozen. The larger of these lie to the east and south of the minor moraine referred to above; their upper courses head in the moraine and lie in characteristic shallow swales on the upland in the manner normal to youthful headwaters on a nearly plane surface, above the incised portions of their valleys. Through the last two or three miles of their courses they fall rapidly in modified V-shaped valleys to the level of the master streams, Bureau and East Bureau creeks. These valleys are graded steeply nearly to the surface of the upland and their streams meander in them in a fashion surprising in narrow valleys with youthful sides. There is no sharp break between the upland swales and the graded ravine portion of such insequent valleys, at least along the axis of the streams themselves, whatever the ravine sides may have to offer.

CIRCULATION

The roads and railroad of the Princeton area are essential features in the economy of the whole. They tie the tributary area to the nucleus, the town of Princeton, and they give an interdependence, a unifying bond to the cultural elements in the landscape.

In the geographical treatment of culture-forms the road is a feature of paramount importance. Man as a geographical agent works with his fellows, as Brunhes has pointed out in essence.[9] The solitary man is not only actually a very rare individual, but also geographically a nonentity. It is only when he is integrated with the social and economic fabric of his area, indeed the usual case, that man becomes important. Thus, the geographical expression of that integration, the road in all its forms, is the important thing, for it unites the various parts of the man-made landscape. The home farthest removed from the market town is still connected with the town by a highway; the field farthest

[9]Brunhes, J., *La Géographie Humaine,* Paris, 1925, p. 54.

removed from that farthest home is still connected with it and its farmyard by a lane or path. The general theory of the relationship of the road to the underlying elements of the landscape has been worked out with great care by Belloc;[10] all that is intended here is the pointing out of the significance of the road in the cultural landscape; it is the bond that unites the various items of the geographically expressed culture in a whole that is as harmoniously a unit as the drainage system of a single stream and its tributaries.

The development of the road pattern of any area is, then, the unifying bond in the whole study of the cultural transformation of the fundament under the agency of man. At the beginning of a sequence of occupance[11] under a new culture (presupposing for simplicity the absence of a previous culture), man attacks the land to transform it to fit his needs better or to transform it passively, as when a hunter in pursuit of game makes a trail through a forest. All human activity in the area proceeds along roads and trails, permanent or ephemeral as the case may be, for it is only at some point on a road which unites him with the rest of the group acting in the area that the individual human agent in the cultural transformation becomes significant.

Almost any day, if a station be taken on one of the roads leading to Princeton from the surrounding countryside (it may be also a thoroughfare for traffic between Chicago and points on the Mississippi River) the life of the Princeton area will flow by. This stream presents a summary picture of the economic and social life of the area. The more swiftly moving elements of the stream will be the automobiles, which, especially on Saturday, bear the farmer and his family to the town for sundry purchases and for social intercourse along its main street. The slowly moving elements will be, perhaps, wagon loads of yellow shelled corn, which are being taken to the "elevator" in the town for sale. The draft horses drawing the loads move much more slowly than the quick automobiles, which, in a sense, set the pace of the community.

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[10]Belloc, H., *The Road*, New York, Harpers, no date.

[11]See, Whittlesey, D., Sequent Occupance, *Annals Assn. Am. Geogrs.*, 19, 1929, pp. 162-165; and Dodge, S. D., Sequent Occupance of an Illinois Prairie, *Bulletin Geog. Soc. Philadelphia*, 1931, pp. 205-209, in which the question is discussed with reference to Bureau.

Roads and the Railroad.—Roads of various condition, railroads, trolleys, and the like comprise what is called circulation.[12] The principal two elements of circulation in Bureau are the roads and the railroad.

The main roads of the Princeton area run from the outlying farms to the town and from towns outside the area to Princeton or beyond. They conform in large part to the general scheme of road pattern imposed by the Ordinance of 1785. The greater part of western North America is stamped by the rectangular survey, a device for recording unknown lands in a home office, which resulted in the familiar township survey. The Ordinance under which the rectangular survey was established in the United States, that of 1785, states that "the surveyors as they are respectively qualified shall proceed to divide the said territory into townships of six miles square, by lines running due north and south and others crossing these at right angles as near as may be, unless where the boundaries of the late Indian purchases may render the same impracticable, and they shall depart from this rule no farther than such particular circumstances may require."[13] The consequence is that throughout the greater part of the middle-western United States, the roads conform in part at least to the rectilinear system.

I. There are many exceptions to the rule of rectangularity in roads.

1. Historically old roads, laid out and in use before the surveying of the land under the terms of the Ordinance of 1785, tend to follow their original courses. In Bureau, two such roads had been developed prior to its settlement. (a) The Peoria-Dixon road is historically the more important of these and its failure to follow the established survey lines may be attributed to the fact that it was developed and used, thus becoming fixed, prior to the official survey of the Bureau area. Several years before Bureau was settled, Peoria had become an important center on the navigable Illinois. It was connected by trail with the lead mines near Galena by the way of Rock Island. In 1827, one Kellogg, to save distance, went straight from Galena to Peoria through the wilderness, thus establishing a trail which became

[12] Brunhes, J., *op. cit.* p. 250 *et seq.*

[13] *Journals of the American Congress from 1774-1788,* 4 vols., Washington, 1823, IV, pp. 520-522.

the chief highway between the Illinois River and the lead mines.[14] The original road went northwards to the west of Bureau Creek, but in the fall of 1833 it was changed so as to pass through the new town of Princeton on the east side of the creek.[15] (b) The other road runs northeast from Princeton and connects that town with Mendota. This road is diagonal, following closely the crest of the ill-defined moraine. It developed before the time of the rectilinear survey and follows an old Indian trail. This trail went northeast through the site of Princeton, connecting the Indian village, near the present Tiskilwa, with the so-called Sac Trail which crosses the state to the north.

2. Where landsurface conditions made a north-south or east-west road impracticable departure from rectangular conformity occurs. The adjustment of the road to underlying differences in the terrane over which it passes may be compared to the accordance between a river and geologic structure that develops during the geographical cycle. In addition to the accordance between the Mendota-Princeton road and the moraine which it follows, already cited, the conformity of the roads of the southern part of East Bureau prairie to landsurface conditions may be noted. In this section the edge of the upland is broken into a series of roughly parallel ridges, some short and some long. The ridge may be a quarter of a mile wide and two miles in length (Fig. 4). The roads which descend to the lowland of Bureau Creek follow a ridge to its end and then descend steeply around the end of the ridge or by a short tributary to one of the ravines which bear the streams responsible for the erosion of the edge of the upland. By running out to the end of the ridge, the road not only avoids the deep, narrow, wet ravines, but also serves the farms which are located on the ridge.

3. The road west from Princeton to Wyanet, departs markedly from an east-west line a quarter mile west of the limits of the built up portion of the town. To be sure this seems to be because of the necessity of utilizing a ravine

[14]Matson, N., *Map and Sketches of Bureau County*, pp. 16-17. According to Parrish (*Historic Illinois*, p. 127) Kellogg's Trail, as the road was called, was laid out in 1825, but the difference of two years between his and Matson's account is of no present geographical importance.

[15]Matson, N., *Reminiscences of Bureau County*, p. 310.

FIGURE 4—Portion of one of the ridges in southeastern Bureau (Section 35, Princeton Township), showing characteristic strips of cultivated land in small fields on each side of the ridge top road and the wood filled valley on the sides.

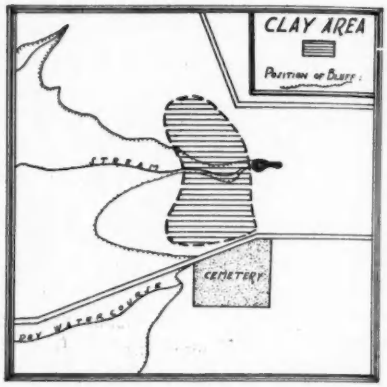

FIGURE 5—Diagrammatic sketch map of a portion of the road west from Princeton, showing the relation of the road to the surface clay, Cemetery sandy gin of the bluff.

to descend to the valley of Bureau Creek, but a more convenient ravine is nearer at hand just to the north. The departure from east-west orientation appears to be the consequence of soil conditions. This section of the edge of the East Bureau upland has surface deposits of clay (Fig. 5), witness the brick kilns located there, and this unfavorable soil, difficult to cross when wet, appears at an early date to have suggested a circuit to the south along the edge of the sandier soil on which the cemetery is located.

II. The use of the roads and the improvements on some of them have weakened the force of the quadrille pattern. If main improved roads, those most frequently traveled, are considered by themselves, they are found to radiate from Princeton.

The principal improved roads are those which connect Princeton with nearby cities, such as Peoria, Dixon and LaSalle. These roads with few exceptions are paved with concrete, as a result of a recent road construction program undertaken by the State of Illinois. They are trunk lines. One from south to north connects Peoria with Dixon and runs through Princeton (Fig. 2).

Another crosses this at Princeton and connects Chicago with Rock Island on the Mississippi River. A third, which joins the Chicago-Rock Island route at Princeton, connects Mendota with the center of Bureau. It is an alternative route from Chicago. Still another runs south from Princeton, along the moraine, connecting the town with Tiskilwa in the lower Bureau Valley. A wheel with six spokes, but without a rim, is thus formed by the roads of Princeton, when their function alone is considered; improvement, that is the hardening of the surface (except for the road to Peoria), and frequency of use have lead to the development of a more or less radial pattern out of the pre-existing combination of rectangular and irregular patterns.

That these roads are partly concrete is a boon to the urban dweller with his automobile, and to the rural dweller as well, but the farmer finds it an inconvenience when hauling heavy loads with horses. The hard surface of the road hurts the hoofs of horses; frequent automobiles make travel on the main part of the road not unsafe, but difficult. As a result, secondary roads have developed in many places at the side of the main, concrete highway (Fig. 6). These roads use the ditches at the side of the concrete, sometimes on each side, sometimes first on one side and then on the other. In many places, the ditch has been widened by the passage of many farm wagons or has been widened to accommodate them.[16]

Princeton is connected with the outside world by the main line of the Chicago, Burlington, and Quincy Railroad. It is a double tracked road carrying through trains between Chicago and points on and west of the Mississippi River. The geographical relations of the railroad are bound up with the position of the town of Princeton with reference to its site. The location of the town in part influenced the location of the railroad and the location of the railroad in turn directed the development of the town. This latter phenomenon, the partial growth of the town away from its original center, will be discussed below. For the present, the location of the town will be assumed as a datum for the discussion of the location of the railroad. It will be seen from the map (Fig. 2) that the railroad enters the Princeton area bearing southwest, that it touches the outskirts of the town, and that it

[16]This appears to be a phenomenon of frequent occurrence, at least in the corn belt of the United States.

then bears northwestward for nearly a mile and a half, where it again assumes a southwesterly direction, just before crossing Bureau Creek. The explanation of this phenomenon lies in the terrane and in the location of the town of Princeton as it was when the railroad was built. The original center of Princeton, about which the town was growing, was on a low hill, a part of the Bloomington moraine. It was desired to have the railroad serve this growing town, which was already becoming important, but difficulties of a topographic nature interfered. A little more than a mile west of Princeton, Bureau Creek interposed a barrier to the westerly progress of the railroad. Immediately west of Princeton and thence downstream to the junction with West Bureau Creek, the valley varies in width from nearly a mile to something less than three quarters of a mile. At the place selected to cross the river, the valley is greatly constricted;[17] it may be crossed by a trestle four hundred and forty yards in length. Upstream from this narrows, there is no place where the railroad could cross the stream and yet come with convenience near enough to Princeton to be of service to the town. Consequently, this single suitable crossing was chosen, and to cross it easily the railroad had to swing north again away from Princeton at a point approximately a mile from the center of the town as it was at that time.

The pattern of circulation in Bureau, conforming in part to the dictates of a regularizing survey and in part to relief conditions, has been developed complexly by use. As a whole, it ties together the various parts of the Princeton area, the people economically, socially, and politically, and the culture-forms developed by them outward along the roads geographically.

LIMITS OF THE PRINCETON AREA

As the people of Bureau have developed the land, they have done so in relation to the economic structure of the United States in general and to particular economic aspects of the Corn Belt. What they have done to the land in occupying and developing it, the whole question of occupance, is dependent on this fact of economic interdependence. One aspect of occupance is the connection between the farms, the producing units of Bureau, and the outside world through integration of the various parts of the

[17] See p. 166.

area with the central town of Princeton, by means of which the interdependent functioning in relation to the Corn Belt is achieved. This integration with the central town, as has been pointed out above, is expressed geographically by the road in its various forms. If this integration be a fact and not a fancy, then some expression of the difference between the Princeton umland and the areas of economic dependence of neighboring towns should be found in the landscape. This is indeed the case; (1) the quality of the roads of Bureau shows clearly what belongs to Princeton and what does not; (2) the division of land between Princeton and its neighbors is revealed; and (3) the more general determining causes of this partition of umlands may be worked out.

1. The ordinary topographic and county highway maps help very little in establishing the limits of the Princeton umland, for they show roads as uniform in surface and do not distinguish them as to frequency of travel. Certain observable qualities in the road, however, may be used as criteria of travel, as indicating the direction of the flow of traffic. In this connection, the highway itself is less important than the numerous intersections of thoroughfares and the even more frequent junctions of private lanes and drives with the public ways. Throughout Bureau, except as will hereinafter be noted and except for four concrete, state-built highways radiating from Princeton, the roads are uniformly of well graded gravel; so, unless there has been recent dragging, the marks of local travel are ordinarily clearly visible. Thus at the intersection of roads the direction of travel is in most instances unmistakably indicated by the imprint of wheels and an even clearer index is found where farm yard drives enter main roads.

The foregoing points need a somewhat elaborated exposition, for they are the crux of the whole matter. It is rightly assumed that the quantity of tracks marked on the road varies as to frequency of travel on any given stretch of road, provided such a record can be made, which is clearly not the case with concrete roads. Unless the assumption is disputed, the next step in the development of the argument requires the consideration of the condition of the road at critical places. These parts and points of the highway are the outlets of private drives, certain stretches of road between, and highway intersections.

a. In most of the cases examined in the field, the private drives showed an unmistakable preponderance of travel in

FIGURE 6—Road in the Princeton area, showing a principal turning to the left and the development of a secondary road at the side of a main road.

FIGURE 7—Turn from a Bureau farmyard drive to main highway, showing evidence of greater frequency of travel to right, that is towards Princeton.

one direction (Fig. 7). This was indicated by the deeper folding of the ruts, if the turn from the drive to the road were muddy, by the greater frequency of wheel tracks in general, and in some instances by the actual construction of

FIGURE 8—A bad road—a typical traffic divide

the drive, as where the house and outbuildings of the individual farm were placed high on a bank above the road. A record of all these marks in Bureau shows for each farm the direction taken by traffic.

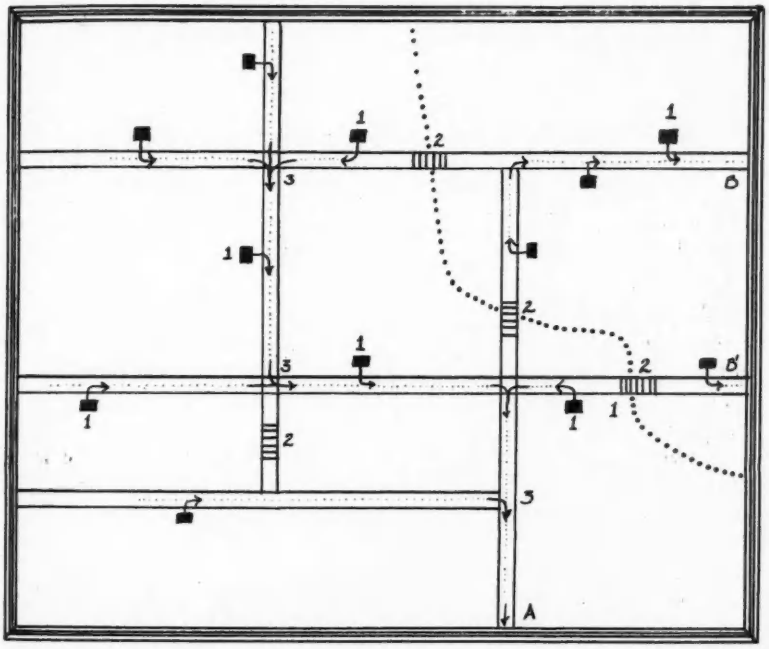

FIGURE 9—Ideal pattern of flow of traffic on a rectangular road system. The turnings from several farmsteads (1) are indicated. Note the traffic divides (2) between divergent turnings. The fine dots connect the principal farm turnings with the principal crossroad turnings. The coarse dots indicate the traffic divide. Traffic to the left of the divide is shown as flowing towards A, that to the right as flowing towards B and B^1, that is towards another town than that beyond A, or by another principal route to the same town.

b. Noticeably inferior roads are recorded also (Fig. 8). In combination with the turns from drives, these two phenomena showed divergent flow of traffic from farms situated with stretches of bad road between (Fig. 9). These places are traffic divides, clear cut separations between two streams

of travel, as a sharp watershed clearly parts the waters of opposing river systems. This was true unless the highways were main traveled ones from town to town. Then, this traffic divide might be indicated merely by uncertain direction of traffic from neighboring farms, as some drainage divides, occupied by swamps, have ill-defined partings between the two flows of water.

c. Following down the road to an intersection, the confluence of two or more streams of travel may be studied. Here, in most instances, where the traffic from what may be called a tributary road clearly turns in one direction (Fig. 9), the local turns from farmyards indicate travel in the same direction. Thus from a combination of features, it is possible to reconstruct the travel along any road or system of roads.

Where the marks at intersections are not clearly indicative, where the flow of traffic is confused, as where streams flow in indeterminately sluggish fashion through swamps and marshes, branching in numerous equally filled channels, that phenomenon was noted on the field map, but since ordinarily it occurred near the town and not towards the limits of the area, as if people went sometimes to one group of stores and warehouses and sometimes to another, it does not upset the general thesis of this argument, which is that they may be used to determine the limits of the umland of Bureau.

By going out from Princeton along any main road or combination of main and secondary roads, it is possible to distinguish the outer limits of the normal economic domain of Princeton by the bad-road divides that indicate those limits and by the turnings from farm yards and tributary roads. Certain occasional travel towards Princeton from outside the area, for business or political purposes, since the town is the county seat, would certainly escape the most careful attention, but the normal movement of traffic is clear and definite. After the farmsteads included in the Princeton area had been determined as above, it was possible to construct the limits of Bureau, as herein defined, by reference to the county plat book[18] in which farm boundaries are shown. The outer boundaries, i. e., those away from Princeton, of all the farms along the margin of the area, the main buildings of which

[18]Published by W. W. Hixson and Company, Rockford, Illinois.

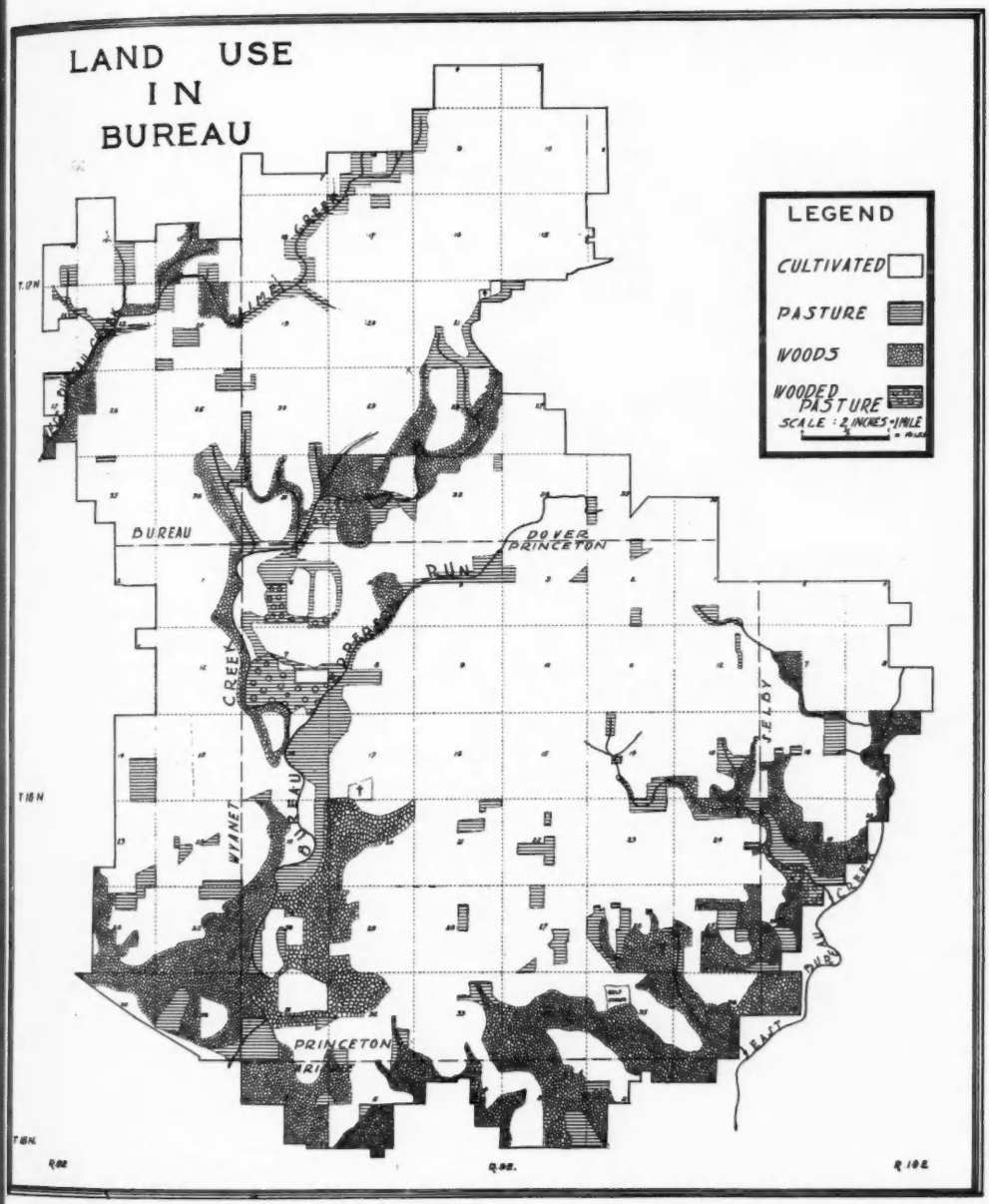

FIGURE 10—Actual boundaries of Bureau and land use within the area.

were within the umland as determined by the flow of traffic, give the true economic limits of Bureau (Fig. 10).[19]

Important factors observable in connection with the economic limits thus established are the natural and cultural features that act as local barriers. Along the south side of the umland, the valley bluff of Bureau Creek has proved to be an effective obstacle. Farther west, farms below the bluff are connected with Princeton because of a more formidable combination of cultural and natural breaks. Down West Bureau Creek, itself an obstacle, come the Hennepin Canal, which is crossed by high bridges, and the double-tracked "Rock Island" railway. The explainable coincidence of these three practical difficulties makes casual travel up the not very steep bluff preferable to that across the valley bottom to the actually nearer town of Tiskilwa. In other parts of the defined area, the young valleys of various tributaries of Bureau Creek form important divides either between traffic connected with the central town of Princeton and that flowing away from it or between separate streams of traffic within the umland itself.

2. In all instances, Princeton does not divide the intervening occupied area evenly with a smaller neighbor. Thus, the limits of the Princeton domain follow closely along the vague outskirts of the little village of Dover. Richer Wyanet, to the west, takes a larger share than Dover, but still the lion's part goes to the larger town. And so it is all around, at northern Kasbeer and towards southern Tiskilwa, although the interposition of the bluff and of the other obstacles mentioned above invalidates this reasoning in respect to the latter town.

3. The limits of the Princeton umland may be said to be determined by the railway pattern of this section of Illinois, which in turn is related to certain features of the natural landscape.

The section of the Corn Belt which includes the Princeton area is well supplied with railways. Proximity to Chicago, from which radiate some twenty lines, and the presence of a coal field give northern Illinois a veritable network of railways. As a consequence of this, Princeton has a more restricted tributary area than might otherwise have been the case (Fig. 11).

West of Princeton, the "Chicago and Northwestern" crosses

[19]Renting of land outside the area was not determined. In all probability it is about balanced in the long run by renting within the area on the part of outsiders.

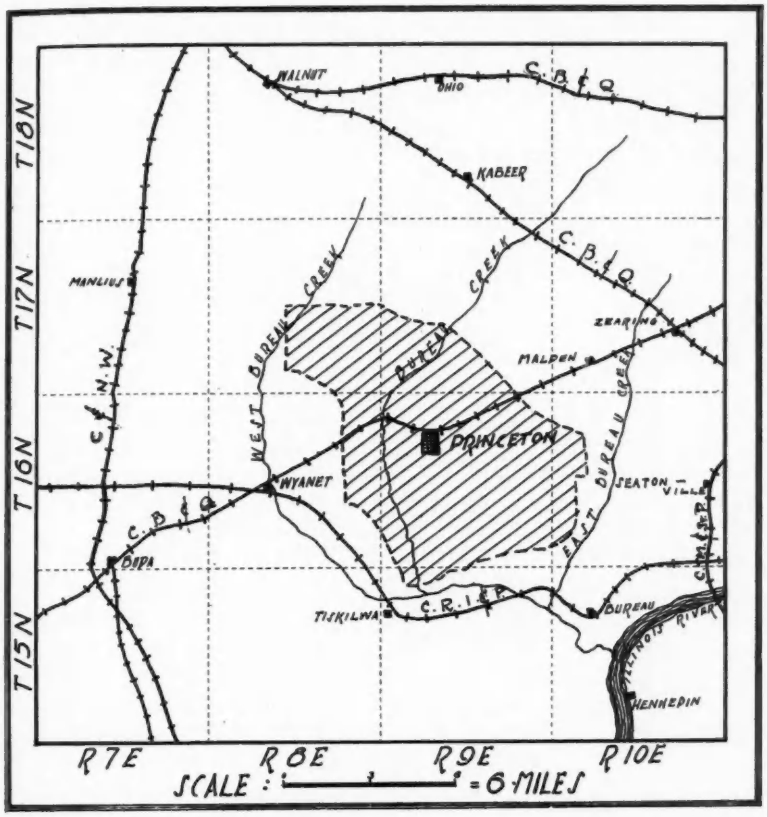

FIGURE 11—The railroad net of the portion of northern Illinois surrounding Bureau, showing the relations of the generalized boundaries of Bureau to the rude parallelogram formed by the principal railroads.

the main line of the "Chicago, Burlington, and Quincy" which passes through Princeton, and connects with another branch of the same railway at Walnut. A corner of Bureau County, east of Princeton, is cut by a branch of the "Chicago, Milwaukee, and St. Paul," and the "Chicago, Rock Island, and Pacific" rises from the valley of the Illinois River by means of Bureau and West Bureau Creeks to Wyanet. The "Burlington" and the "Rock Island" are main line railways from Chicago to the west; the

others, with the exception of the "Northwestern" are branch lines connecting the Bureau County (LaSalle) section of the coal field with their respective main lines which run northwest and west from Chicago. These railroads form a rude quadrilateral within which the Princeton area lies, its irregular boundaries approximately half way between Princeton and the nearest stations in every direction.

The Princeton umland, circumscribed as it is by unimproved roads which act as traffic partings, is a nicely limited area. Though "natural" boundaries appear to be lacking because Bureau is merely part of a much larger plain, nevertheless closer examination reveals a multitude of minor features, elements in the geographic structure of the area, to which, in the process of extending their domain, the people of the Princeton area have adjusted themselves, at least temporarily. Perhaps there is a cultural geographical cycle—an approach to greater and greater nicety of "adjustment" of "cultural" to "natural" features; perhaps in this cycle, the Princeton community, forcing an outward migration of the divides of its area, has already come to that stage of maturity of development that is characterized by nicety of adjustment; perhaps the present limits of the Princeton umland are but temporary; it may be that more and more territory, or less and less, will be included in the domain of Princeton in the future and that the umland boundaries will be changed accordingly. At present, however, they seem to be stable.

PRINCETON THE CENTER OF BUREAU

The life of the Princeton area as a whole and more especially of the town itself centers about two business districts in Princeton (Fig. 12). The present day characteristics and economic functions of the various districts in which the town may be divided are the present form of a continuously changing development. They may be thought of as the resultant of all that has gone before in the way of utilization of the site. The stages of development are (1) the first settlement fringing Bureau Creek woods, when the white man displaced the Indian, (2) the nuclear beginnings of a town, (3) the town before the coming of the railroad, (4) the town-plan as a result of railroad development, and (5) the present day "layout" which is the product of this evolution. A geographical analysis of this history is fundamental to an

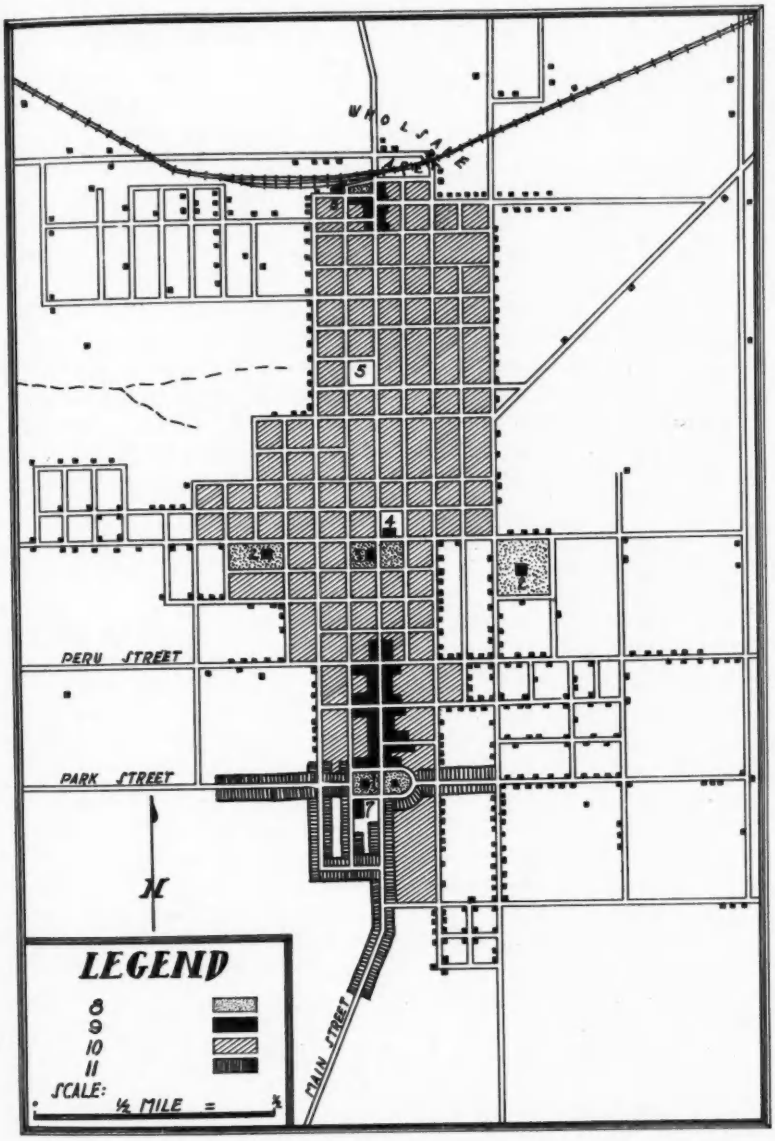

FIGURE 12—The town of Princeton. 1, Courthouse; 2, Schools; 3, City Hall; 4, Water and Electric Light Plant; 5, Gas Plant; 6, Railroad station; 7, Jail; 8, Parks; 9, Commercial cores; 10, Thickly built up ordinary residence; 11, Superior residence.

understanding of the chorography of the Princeton area as well as of its urban detail.

1. At the edge of the prairie, where the woodland laps over on the upland along Bureau Creek, Princeton had its genesis and there it has grown. This woodland is continuous with the forest that stretches far to the south along the Illinois River to which Bureau Creek is a tributary. At the particular site of Princeton, within this extended woody margin of Bureau Creek, the low westward extension of the Inner Ridge of the Bloomington Moraine (Fig. 2) rises gently above the level of the surrounding land. The rise is crowned in part by the spreading town of Princeton. From a distance, the low elevation appears to be woods exclusively, but more critical examination discloses above the woods the slender spires of churches and the towering bulk of the water standpipe. Indeed, the latter feature could hardly escape the attention of the most casual observer. Thus, on examination, the woods resolve into a town with a suggestion of pleasantly shaded streets.

The first comer (1829) to the part of Bureau lying east of the creek was Elijah Epperson, who settled about three miles north of the site of the later town of Princeton, near the brook which now bears his name.[20] Like all pioneer settlers at the edge of the prairie he utilized the natural grassland for pasture, but had his home and cultivated fields in the margin of the woods. For many years there had been fur-trading ventures in the region, and there was a trading post at Hennepin (Fig. 2).[21] An Indian village occupied the site of Tiskilwa, and its people were engaged part of the time in the collecting of furs. One Bulbona, a fur trader, made an independent venture and established a trading post west of Bureau Creek.[22] Through the agency of these traders and of others, the region was known and men were impressed by the reputed fertility of Bureau. Epperson was joined by others, who hearing of the excellence of the area drifted in to settle near him. Parties arrived from New England and, once in Illinois, learning of the fertility of Bureau, journeyed thither.[23] Epperson welcomed them and helped in the selection of homesites near springs in the edge of the woods bordering Bureau Creek.[24]

[20]Matson, N., *Reminiscences of Bureau County*, p. 258.
[21]Matson, N., *Map and Sketches of Bureau County*, p. 9.
[22]Matson, N., *Reminiscences of Bureau County*, p. 105.
[23]*Ibid.*, pp. 261-265, 280.
[24]Matson, N., *Map and Sketches of Bureau County*, p. 10.

Soon there was a chain of rude, puncheon floored cabins stretching from Epperson Run to the vicinity of the great bend of Bureau Creek, three miles south of the site of Princeton (1832).

In this way a group of people became localized on Bureau. The agriculture practiced by this string of pioneers was rude and consisted in the rearing of cattle, pastured on the prairie and sold in local markets such as the post at Hennepin or the larger town of Peoria down the Illinois.

2. The socially isolated people of East Bureau were dependent upon one another. Many were religiously inclined, being heirs of the New England Theocracy, and the need for a church seemed paramount. During the troublous times of settlement, when Indian raids and the famous Black Hawk's war (1832) made survival of the white settlements on Bureau doubtful, the undertaking of permanent structures could be no more than a future possibility. At the close of the war, those who had fled returned to Bureau and new settlers came as well. This time they were to remain; at least permanence of settlement on Bureau dates from that epoch. After the resettlement of Bureau, the need of a central meeting place was felt even more strongly and plans were pressed for the creation of a town. Theretofore church services had been held in a house near either end of the line of settlement, at the north and at the south in alternate weeks.

In each township laid out by the government survey one section was set aside for the purposes of public education, either as a site for a schoolhouse or to be sold for the benefit of the school. This was ordinarily Section 16.[25] It happened in East Bureau that Section 16 lay about midway between the extremities of settlement along Bureau Creek. The people decided to subdivide this section and sell the lots, at the same time founding a town. This was done in 1833, and the town of Princeton began to take form. It happened also that Section 16 included some of the higher portions of the Bloomington Moraine (Inner Ridge) (Fig. 2). On this low hill the church was built. How much the desire to have the church on a rise of ground entered into the choice of the section as the site for the town it is difficult to say; certainly the people, coming largely from New England,[26]

[25]Apparently because the system of numbering in vogue brings Section 16 near the center of the ideal township.

[26]Principally from Northampton, Massachusetts, according to Matson, *Reminiscences of Bureau County*, p. 261.

had a tradition of elevated churches. In all probability, however, the fact that Section 16, being school property, was unappropriated, was of greater importance.

3. After the organization of the town many necessary functions and services became localized there, for which in some cases trips to distant towns, such as Peoria, had had to be made. Following the New England custom a "green," or small park, was laid out, and facing it the church was erected in 1833. A blacksmith opened a shop in the same year, and in the following year a general store was ready for business. In addition, the chance traveler could be accommodated at the "Princeton Hotel" which was started in 1834. The homes of the townsdwellers were built there too, with farm homes in the outskirts. All this development formed the nucleus of the present town; it took place about the "green," now the Courthouse Park (Fig. 12). Thus, from the group of people in Bureau, a community took form as a town about a single center.

During this period of development, the place was still an isolated frontier settlement, largely self-sufficient and without many ties with the outside world. Surplus grain was hauled overland to the Illinois River to be sent eastward by the way of St. Louis and the Ohio River. Early in the history of Princeton there was agitation for the building of a canal to connect the Illinois River with Lake Michigan at Chicago. The people of Bureau supported the project eagerly, for it would give them a better outlet for an exportable surplus. The Illinois-Michigan Canal was completed in 1848. Even after the opening of the new waterway to traffic, the people of Bureau had to carry their goods overland to the Illinois River, as was the case before, but that river now gave them contact with the nearer and better market at Chicago. As a result the community was transformed from frontier semi-independence to integration with the world market through Chicago, the status that it enjoys today.

During the process of this change there was only slight alteration in the aspect of the growing town. The courthouse was added to the group of buildings in Princeton, replacing as the conspicuous feature of the "green" the church which had burned. Independence in county affairs seems to have justified in the minds of the inhabitants the prominence given to the courthouse. From almost the beginning of settlement there had been agitation for the creation of a separate county out of the territory west and

north of the Illinois River. County business had had to be transacted at Hennepin on the east side of the river, much to the inconvenience of the people living on Bureau (Fig. 2). It was not long before the petition to be made a separate county was granted (1837), and Princeton, the only village of any importance in the area set aside as Bureau County, was selected as the new county seat.

4. Until 1854, the means of communication between Princeton and Chicago were not considered satisfactory. In that year the railroad was completed. Princeton thereupon changed its outlook, shifting its attention from the south and the Illinois River, whither it had looked to export its surplus grain to Chicago or to St. Louis, to the north and the railroad which passed the town on that side. Following the building of the railroad, Princeton advanced rapidly as an exporting center for grain; in 1866, some 275,000 bushels were sent to Chicago; of the amount seventy percent was corn and the rest wheat.[27]

This reorientation of Princeton brought about a change in the ground plan of the town. From 1854 the town developed dyadically, for a second, or station, center grew up in response to the needs for localization of the export business near the new railroad. The courthouse district continued its growth, but the attention of the people of the community was not directed solely towards the older center; part of their effort went to improving facilities for shipment at the new center. The double center developed because the railroad passed nearly a mile away from the original point of settlement within the town (Fig. 12).

5. The courthouse center had developed, as has been indicated, about the "green," which in characteristic New England fashion was made the focus of the affairs of Bureau. Events interceded, however, and the real focus came to lie slightly to the north of, though adjacent to, the "green," except for county judicial and administrative functions which have remained at the courthouse. This "off-center" growth may be attributed to the fact that the road from LaSalle and Peru (called Peru Street within the town —Fig. 12) entered the main street a quarter of a mile north of the park, although roads from the west, south, and southeast con-

[27] Matson, N., *Map and Sketches of Bureau County*, p. 196. In 1856, ten years earlier, 310,000 bushels of grain had been shipped to Chicago on the C. B. & Q. R. R.; the decrease in 1866 may be attributed in part to the increased number of cattle and hogs raised.

tinued to seek a center near the courthouse. The result has been that the "store section" of the courthouse end of the main street has come to lie between the courthouse park and Peru Street, except for recent development which has taken place immediately north of the crossing of that street.

It is interesting to note that whereas the part of the main street from the park to Peru Street contains the usual stores, banks, and offices associated with such small urban centers, the public garages and automobile supply and sale stores, representing a much later phase of growth, found a place on the street only on the northern outskirts of the main business section, i. e., to the north of Peru Street (Fig. 12).[28]

At the north end of the main street, the focus of urban activity, the principal business development, lies between the crossing of the railroad and the junction of the street leading to the old diagonal road to Mendota, mentioned above as following the moraine. This seems a natural development, for if the main object of building at the railroad was the creation of export facilities, these would be near the railroad, obviously (Fig. 12), and subsidiary functions and stores would tend to be located where the greater number of people congregated, that is in the section of the main street which has been designated as the second business district of Princeton. In addition, since the town has grown from the old center towards the railroad, or has filled in between the two centers, its residence area has spread but little to the north of the tracks, and the stores, serving the townspeople as well as those from outside would be more advantageously located where they are than elsewhere.

Midway between the two sections of town thus developed the civic functions are located. The city hall (Fig. 12) with a small park is located on the main street, and the production of gas and electricity and the pumping of water follow suit. Formerly a trolley line, connecting Princeton with the Illinois Valley and its LaSalle coalfield to the east (Fig. 2), entered the town from the south along the main street. Coal for the water and electric light plant, opposite the city hall, was brought by trolley, and

[28]Similarly, in this connection, the northern part of the main business section, between the principal stores at the park end and the automobile section beyond Peru Street, contains the "radio" section, developed out of the stores dealing in batteries and electrical supplies, incidental to the automobile business. This is a natural development with corresponding natural geographical location.

the location of these functions on the main street is a consequence of that fact. Likewise, the "gas plant," nearer the station end of the street, was located where coal could be imported easily by the trolley. Although the trolley is now abandoned, the location of these urban functions continues to be the same.

The dyadic growth of Princeton has given a certain logic to its ground plan, as far as its main street and essentially urban functions are concerned. The residence districts conform in part to this and in part to certain aspects of the terrane. About the "green," except on the north side which is commercial, and on the south, east, and west streets leading from it, the "better" residences are grouped. To the east, the quality of residence, somewhat indefinable, decreases. In this direction the built up portion of the town is limited by greenhouses and small nurseries.[29] In general, outside the courthouse residential section, the houses are of the "second" or "third" class in respect to quality, in size, upkeep, and appearance; these two qualities occur more or less mixed, with a greater preponderance of "third class" houses towards the station end of the town. The original center of Princeton, now represented by the park with its courthouse and "superior" residences, is on the crest of a low hill from which the land slopes away gently in all directions. There are two westward extensions of residence from the main part of town. Each crowns a low ridge, marking the northern or southern limit of a shallow valley opening towards Bureau Creek. The intervening area, a kind of recess in the built up portion of the town, is low and marshy and unsuitable for building. Of these two extensions the southern is a continuation of the courthouse residential area along the main street leading west; the northern is occupied by a scattering of second and third class houses which by no means fill entirely the area laid out in "blocks."

There is a logical harmony to the development of Princeton, a logical use of terrane from time to time as successive events changed the orientation of the town and its economic functions, and from place to place within the town in accordance with this temporal aspect and in relation to qualities of land that have sug-

[29]This development and the corresponding development of nurseries in the rural parts of Bureau (see p. 205) seems to be related to the distribution of such "industries" with reference to the urban and semi-urban consuming area of which Chicago is the center.

gested the spread of the town in some directions and in part limited it in others.

THE CENTER OF CONCENTRIC AREAS

Although the region covered by this report is the relatively small one immediately tributary to Princeton, there are other and larger areas which must be called upon to account for some of the phenomena of the town itself. There is the larger area which is dependent upon Princeton in a social way, the people of which consider Princeton their nearest large town, to which they go occasionally for recreation, for clothing at times, and for other goods and services. It is bounded on the north in like fashion by the area tributary to Dixon (30 miles), on the west by a similar area with Kewaunee (25 miles) as its center, on the south by Peoria (40 miles), and on the east by LaSalle (20 miles).

The other area of which Princeton is the center is Bureau County. Princeton is the county seat. It is as near the center of the county as any other town, and, although the northwestern parts of the county are relatively remote, Princeton has remained the county seat, probably because the more important cities of LaSalle, Peru, and Spring Valley, in the mining area, have sufficient political power to prevent its being moved farther from them.

These three concentric areas contribute to the life of Princeton. The smaller, inner area is tied by the closest economic bonds to the central town, the larger, outer area, by looser bonds, and the county as a whole turns to Princeton for political and judicial reasons only, having remote and sometimes alien economic interests. It is the immediately tributary area which is considered as the expression in the landscape of the life of the Princeton community, which forms the area of which Princeton is the center, but to the larger area and to the county must we turn for an explanation of some of the phenomena of the town itself, such as the courthouse and some of the better stores of the old center.

OCCUPANCE OF BUREAU

The human facts of the landscape of Bureau, the imprint of the natural landscape of the modifications worked by the people of the Princeton community, are related directly to the business of getting a living from the land and to the realization of the "good life" in so far as the people of the area have been able

to bring it about. The most conspicuous item in this chorographically expressed culture, when the land is observed from afar, is the farmstead group of buildings, house, barn, and various smaller outbuildings. The complex life developed in Bureau during the past century has been expressed in the landscape areally chiefly in terms of cultivated fields and pastures.

The majority of farmsteads in the upland area east of Princeton are located on roads leading directly to the town. For example, in the square of four sections lying immediately east of Princeton, all except four of the seventeen houses are on east-west roads with access to Princeton either directly or by a short-

FIGURE 13—Distant view of a farmstead. Note the "island" character of its relation to its surroundings.

cut by way of a section of the diagonal road which runs from Mendota to Princeton. Of these four which face north-south roads, two are on that which borders the town on the east. In general, following the same principle, the farmsteads north and south of Princeton are located on north-south roads which give easier access to market than those running east-west. Of the group of seventeen houses east of Princeton, twelve are located definitely on crests of the slight undulations in the landsurface. The farm building group is conspicuous from a distance; with its trees it resembles a dark green island rising from a sea of cultivated land (Fig. 13).

Houses.—The houses of Bureau bear the stamp of the New England origin of the people of the area, for many came from that section of the country and brought their architecture with

them. In the beginning of settlement the settlers erected cabins in the margin of the woods with small fields for the growth of crops and larger prairie pastures for the grazing of cattle, and here they lived till more substantial dwellings could be built. Some lived only in tents. When the first dwellings were replaced, the houses built were generally nothing more than cabins with two or three rooms, clapboarded or shingled on the outside.

By 1854, all the prairie land, as well as the woodland, had been entered for settlement, and houses were scattered over most of the prairie shortly thereafter. The first movement from the

FIGURE 14—Brick house in Bureau, characteristic of the earlier settlements on the prairie. See Figure 2.

FIGURE 15—Smaller house in Bureau.

protecting woods along Bureau Creek was to the shelter of isolated groves or "peninsulas of woods" which occurred here and there on the grassland as outliers or projections of the Bureau Creek Woods (Fig. 2). In these places more or less pretentious houses were built (circa 1860). A typical home of this kind is found two miles southeast of Princeton, near the southern margin of Bureau. It is built of brick (the prairies had little timber) with two and a half stories and an ell (Fig. 14). Contrasted with the houses built earlier and later it suggests luxury. Houses of this type occur in a zone adjacent to the woods which nearly surround Bureau. In some of the groves and on the intervening prairies of this zone, some of the later houses have been built of wood, painted white, and consequently suggest even more strongly the New England origin of the architecture.

Eastward of the zone of first prairie settlement on East Bureau and westward of the similar zone west of Bureau Creek, which has a few of the brick houses, the houses of the prairie proper are smaller and of another, more general style (Fig. 15). They

are generally constructed of wood, for they were built for the most part after 1854, when railroad connections brought the Chicago lumber market nearer. The houses generally have five or six rooms and are one and one-half stories in height, painted either white or drab.

Houses of more recent date, say built in the decade 1915-1925, are also small, but follow the newer dictates in American domestic architecture, being built in what may be called the "suburban" style. They have been built to replace earlier dwellings or to house the married sons of farmers living in the vicinity, perhaps on the same farm.

In sum, houses in Bureau, representing three stages in the settlement of the area, are arranged more or less in zones, subparallel to Bureau Creek. The influence of drainage, operating indirectly through woods, may be traced in the distribution of architectural types in rural Bureau, as well as in soils, woods, and the historical development of the town.

Fields and Pastures.—Most of what the inhabitants found as prairie has been plowed. Where there are streams they have generally left the land in pasture, or at least have left a narrow strip uncultivated on each side of the stream (Fig. 10). Some of the woods they have pastured; some they have opened by cutting and grass has come in. The consequence of all this is that, taking into account the wooded and open pastures along streams, the stream-cut portions of Bureau contain a greater proportion of land left in pasture than cultivated, and the streams themselves, dominant in the fundament, have become dominant in the distribution patterns that have resulted from occupance, for it is the stream-determined exceptions to the prevailing cultivation of Bureau that are the conspicuous feature of these distribution patterns.

The central portion of Bureau, chiefly east of Princeton, is practically pastureless, and the portion lying between Bureau Creek and Lime Creek in the northern part of the area has likewise few permanent pastures. One of the pasture exceptions to cultivated uniformity, approximately one hundred twenty acres in size and divided between two farms lies along Epperson Run in Section 4, T 17 N, R 9 E, north of Princeton. It is a striking example of the necessity of keeping the land near streams in grass, though the maintenance of sod has failed to check erosion entirely. The stream undercuts its north bank, where great bare patches

occur from which sod and soil have slumped into it. The hillside is too steep for effective cultivation; it must be maintained as pasture, or wasted. Rapid erosion is destroying the pasture, but as yet curative measures have not been employed; land is perhaps still too cheap.

In the southeastern part of Bureau, there are likewise large pastures associated with streams. One of these (Section 13, T 16 N, R 9 E), nearly eighty acres in size and partly wooded, is located on a stream draining to the lower course of Bureau Creek, south of the Princeton area. The head of the stream lies on the upland in a shallow swale, where it crosses the western part of a forty.[30] This part of the area is in pasture (about five acres), although the remainder is cultivated. Immediately south, the stream begins its descent to the level of Bureau Creek. Thence for half a mile to the southern limits of the section (13), the stream is bordered by wooded pasture for the most part, to which is added open pasture to square out the forties through which it flows. In the southwestern forty of the section another stream lies in a deep ravine, of which the steep slopes are wooded; the remainder of the forty acres is in open pasture. Steep slopes in these two examples in one section are apparently the chief reason for the retention of the land for the use of cattle.

The erosive power of water, however, is a phenomenon with which but few farmers contend. Others are confronted with other aspects of drainage. In its upper course, Epperson Run is an

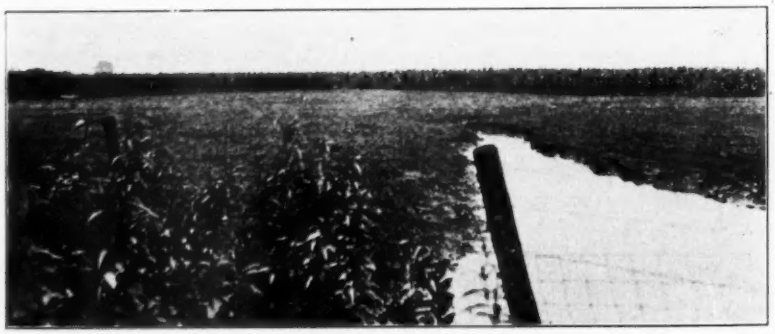

FIGURE 16—The source of Epperson Run.

[30] I. e., a square, forty-acre tract of land, one-sixteenth of a mile square section of six hundred forty acres.

ill-defined stream sluggishly draining a nearly level upland surface, the subsoils of which are impervious enough to prevent rapid underground drainage. Hence arises the problem of ridding the land of surface water which collects in depressions or which moves off slowly in streams, the currents of which are hardly perceptible. Ground thus rendered unfit for cultivation, where artificial drainage is impracticable or where pasture is needed, is utilized for hog and cattle lots. This is the case with the source of Epperson Run. Figure 16 shows the slowly moving water of the run during a wet period—it is not a perennial stream in its upper course—and the pasture associated with it. Ill-defined drainage suggests the use of land for pasture.

Conditions in Section 14, T 16 N, R 9 E, represent a transition from land where drainage does not involve the maintenance of grass along the edges of the stream to land in which erosion "necessitates" pasture.

In the northern half of the section, the stream is not permanent; after rains, water flows through the draw towards the south. Except for the depression of the draw the only indication of water is the greater rankness of oats or the slower development of corn in the bottom, where the moisture is greater than the optimum for the proper growth of both grains. There is no definite stream channel, and the draw is cultivated along with the rest of the field of which it is a part. In 1926, part of it was devoted to rotation pasture, a phenomenon of frequent occurrence in Bureau, where most of the land can be cultivated.

The brook enters the southern half of the section from the north five hundred feet west of the center, passing under the road there by a concrete culvert. Immediately south of the road it strikes off in a channel two feet deep, flowing first through a pasture lying in an ill-defined depression which serves as a collecting basin for water from the surrounding slopes. South of the pasture, which extends for an eighth of a mile, the stream continues in its sunken course, but now between cultivated fields. In 1925 corn, cultivated in two pieces, occupied each side of the stream; in 1926, corn occupied one side and oats the other. Between the limits of cultivation and the watercourse, in each case, there intervenes a strip of grass, or weeds, from two to three or more feet in width. The stream passes under the road on the south side of the section and forty yards east recrosses it, finally passing from the section (14) one quarter mile north of the southeastern

corner.[31] From the recrossing of the road to its final passage from the section the stream is bordered by pasture, either open or wooded. It is beginning its descent to the level of Bureau Creek, and it flows in a deeper valley, more swiftly and with more erosion of its banks.

Barns and Farm Economy.—In the farmstead group of buildings, the barn is the most important element. It reflects the dominant farm economy, so that from an observation of the buildings many of the other features of the cultural landscape might be guessed. The most widely distributed barn type is the well built hay barn which gives ample hay storage space and suggests the number of grass eating animals that must be fed during the winter. It is the barn of the cattle section of Bureau.

Some of the barns have silos attached, from which the landscape partakes of the nature of the farm economy, for from any low elevation the horizon is pierced here and there by the upraised stacks of silos beside the barns, in many cases forming a conspicuous, bulky addition to the low grove of trees which surrounds the house. Silos occur chiefly near Epperson Run and the northern part of Bureau Creek and in the southern part of Bureau near the margins of the upland (Fig. 10). In general it may be said that the silos are distributed in relation to the larger pastures, which in turn are found where streams occur. Where there is much land that is unsuited to cultivation there is much pasture. To utilize this land, cattle predominate in the farm economy at the expense of hogs.

Between the two areas in which the silo is found and north of Bureau Creek, portions of Bureau exist where the farmers utilize principally a combination of corn and hogs. The farm buildings in this section of Bureau are smaller. There is less hay, since there are fewer grass-eating animals. Therefore, there is less need for large hay storage space which adds to the bulk of the barns in the other portions of Bureau. Long, low partly open sheds, which may be closed if necessary in winter, are all that are needed. Hogs are fed on grain, hence on the hog farm the corn is picked when ripe and stored for subsequent feeding. To keep the corn dry, to protect it from rain and snow, some kind of a "crib" is necessary. Pastures devoted to hogs take on a

[31] This stream is the upper part of that described above as lying in a deep ravine in the southwestern part of Section 13.

FIGURE 17—Hog pasture. Note the corn cobs in the foreground.

FIGURE 18—Osage orange hedge.

special characteristic which epitomizes the agriculture of Bureau. Figure 17 shows such a hog lot. In the foreground are the remains of ears of corn which have been fed to the hogs. This scene, with slight alterations in detail, is repeated throughout the Bureau hog area, especially in the northwest and central portions.

Fences.—In the early history of white settlement in Bureau, cattle were pastured without let or hindrance. There were few

fences; the prairie was unobstructed from the Mississippi to Chicago till 1837.[32] Now, however, fences are the rule. They follow each side of every road and subdivide sections, of which each has some ten miles of fence. Some of the fences are osage orange (*Maclura pomifera*) (Figs. 7 and 18), but these represent an early unsatisfactory attempt to overcome the general lack of stone or wood for fence-building, and are now being replaced by either barbed or woven wire.

Crops.—In 1925 and 1926, the land of Section 14, T 16 N, R 9 E, was utilized as indicated in the following table:

	Acres	
	1925	1926
Pasture (permanent)	41	41
Clear	36	36
Wooded	5	5
Cultivated land	568	568
Rotation pasture	30	34
Corn	218	309
Oats	168	142
Other grain	84	38
Hay	68	55
House lots	7	7
Roads	24	24

Approximately ninety percent of the land is cultivated. Of this, in both years, six percent was in rotation pasture; the remainder, or eighty-six percent of all the land, was in crops. Of the crops, corn ranked highest in area, having in 1926 more than one half the total cultivated acreage. The discrepancy was made up in 1925 by the planting of maize in adjoining sections, or in 1926 by maize of adjoining sections having been planted in the section under consideration, according to the way in which the rotation of crops worked out. In any upland Bureau scene corn is the dominant crop, clothing the land in summer with luxuriant green, binding the farmer to the soil for its careful cultivation during the growing season, and directly and indirectly determining his prosperity.

The area of greatest concentration of corn acreage within the

[32]Kett, Henry F., *Voters and Taxpayers of Bureau County*, Chicago, 1877, p. 107.

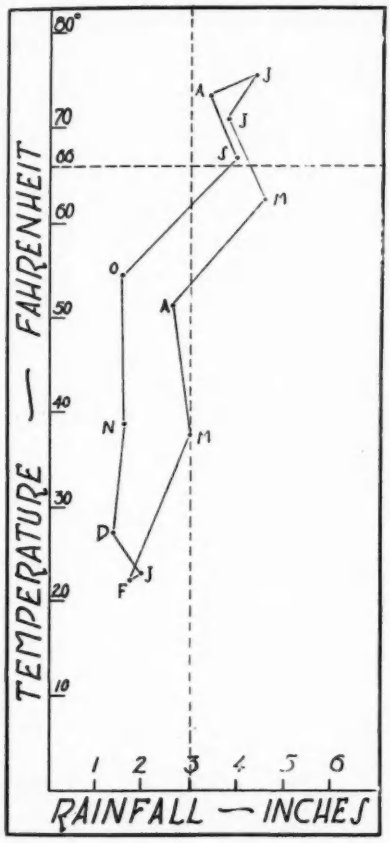

FIGURE 19
Climagraph for Walnut, Illinois.

corn belt is in east central Illinois,[33] and the Princeton area lies just within the northern limits of this area of maximum production. These limits of corn production coincide approximately with the summer isotherm of 66° F. The western limit of maize production is well beyond the limits of the area of density in Illinois. The isohyet of eight inches mean summer rainfall roughly marks the limits of maize, and this line, in the latitude of central Illinois falls in western Nebraska. Figure 19 shows a climagraph for Walnut, Illinois, a station twelve miles northwest of Princeton, in which temperature is plotted against rainfall for each month of the year. The 66° temperature line of the graph is emphasized to show that the three summer months, June, July, and August, have average temperatures above that required for corn production. Likewise the line representing three inches of rainfall, nine for the summer season, has been emphasized. This shows that the rainfall is sufficient in the Princeton area for the production of corn, there being more than nine inches in the summer season (eight inches mark the western limits of maize!) On the climagraph the growing season, then, lies in the quadrant having nor-

[33]U. S. Department of Agriculture, *Yearbook, 1928,* p. 644.

mally[34] more than 66° average temperature and more than three inches average monthly rainfall.

The Princeton area is preeminently a grain producing region, with maize as the chief crop, but oats contribute to the welfare of the farms by furnishing feed for stock. In the mosaic of crops in the cultivated land of Bureau, corn dominates, shutting in the smaller crops; oats are next in importance and fill in most of the interstices in the checkerboard pattern.

Land utilization for cultivation is not entirely free from the effects of streams. For example, the upper course of Epperson Run flows from the pasture, discussed above, across the road into Section 34, T 17 N, R 9 E, where a remedial treatment of the drainage problem is exemplified. Here the stream naturally bore gradually to the southwest, passing from the section near the southwestern corner. To bring the land thus crossed under cultivation, the stream has been carried to the north twenty rods along the road, thence along the fence on the north side of the quarter section, eighty rods, and south again to its former channel. This was not a difficult engineering feat, considering the easy gradient of the stream. The former channel of the southeast quarter of Section 34 has been masked by tillage.

In the upland portion of Bureau, then, two major types of land use involve (1) abundance of pasture where erosion or accumulation of water in languid streams is excessive, and (2) a general lack of pasture where there are few streams, or where drainage is more nearly ideal. With the former cattle are more plentiful; in the latter hogs dominate.

CULTURAL SUBDIVISIONS OF BUREAU

It has been shown already that interruptions to the general crop pattern occur where streams introduce a greater amount of pasture. This general relationship is emphasized by the altered cultural aspects of the major relief consequences of the drainage of Bureau. These altered cultural aspects are not actually elements of an alien culture, but represent, for the most part, economically marginal phases of the prevailing culture type. The patterns of occupance, as a consequence of the different relief, may be discussed briefly under two heads, (1) those of the valley of Bureau Creek and (2) those of the sharply dissected margins of the upland.

[34]Statistics for climate, Walnut station, are based on figures for a period of 17 years. United States Department of Agriculture, Weather Bureau, *Summary of Climatological Data by Sections, Bull. W*, 1912, Section 64, pp. 5-6.

The Valley Bottom.—The upland gives way to the valley bottom in till bluffs which are steep and which have been left in woods or which are used for pasture, as has been suggested earlier in connection with upland farms geographically marginal to Bureau. As a consequence, although the valley bottom does not bear the imprint of a different culture, it seems culturally unlike the upland, because the restricted area of the valley bottom and the general "shut-in" effect produced by the high bluffs which bound it give a different geographical aspect to the marginal phase of the prevailing Bureau culture impressed there. If we walk along the edge of the valley and get near enough to it to look down the bluff here and there, we will notice that two types of valley bottom may be distinguished, narrow and wide.

1. In the wider portions of the valley of Bureau Creek, especially south of the confluence of Epperson Run,[35] farms almost approaching the upland scale are found, but the arrangement of their parts is different. The farmsteads are located near the base of the bluff. Two facts may be called on to account for this. In the first place, as the land rises from the river towards the bluffs, the drainage is better and the danger of floods is less. In the second place, potable and more easily obtained water is found

FIGURE 20—Part of farm in valley of Bureau Creek, within the Princeton area, showing the location of water supply where the flat land joins the bluff.

[35]See p. 166.

in springs in the bluff. It can be transported to the barn and house by gravity. At one farmstead, the water supply for stock is an open tank with running water located within fifty yards of its source on the bluff (Fig. 20).

The section (30, T 16 N, R 9 E) on which the farm mentioned above is located may be taken as typical of the cultural aspects of one part of the valley bottom. This section and the southern part of that (19) to the north are cut up by the river and low extensions of the upland to form greatly restricted land-surface units. Through the southern half of Section 19 Bureau Creek swings from the east to the west valley bluff cutting the area under discussion off from the occupied part of the valley that lies west of Princeton. A mile south of this east-west swing, a high terrace ridge, perhaps the remains of a meander-formed cusp, extends half way across the flat valley bottom. Along the north side of the ridge a minor tributary of Bureau Creek flows and by its junction with the major stream completes the separation of the two parts of the area.

The narrow space left for cultivation by this cutting up of the valley makes for small fields. The cultivated fields extend right up to the base of the bluff and above them lies the road; as much of the flat valley bottom is utilized as possible. Towards the river, which bounds the farm on the west, the land becomes moister, although it is undissected except by the river itself, and the general rule of pasture near streams is borne out. Pasture edges the farm on all sides. East, beyond the road, there is pasture on the bluff. That which lies to the west along the river runs up on the definite westward extension of the bluff south of the farm. North it follows the higher tongue of land which projects from the east bluff towards the river.

The farm to the north of the tongue mentioned above has similar aspects, but the house is located at the base of the bluff with the barn beside it, the cultivated land lying westward across the road. Wherever farms occur in the local widenings of the valley, these general conditions are borne out. In the narrower portions of the valley bottom, cultivated land is either lacking, the whole being in pasture, wooded pasture, or woods, or what cultivated land does occur is merely an extension of upland agriculture to small, but warm fields below, for the looseness of the valley timber soils generally means that they are less damp and more easily worked, though they are less rich in humus, than the upland prairie soils.

The Ridge Extension of the Upland.—On the ridges which border lower Bureau Creek on the south of the upland of East Bureau, agriculture suffers from lack of space even more acutely than in the valley. The ridges, perhaps two miles long, are in many places less than a quarter of a mile wide. Hence, the cultivable area of the farms is small and long and narrow rather than compact. Beyond the fields, which may be much less than an eighth of a mile in width, oak woods and scrub fill the ravines and shut in the cultivated lands. The ramifications of the ravines here and there subdivide the arable land, making small, irregular patches of it, further subdivided by the necessary road. Section 35, T 16 N, R 9 E, (Fig. 10) shows the landscape effect of these conditions. A road crosses the northeastern part of the section, running along a ridge from the main upland, which lies to the northwest, till it passes to the lowland at the end of the ridge beyond the limits of the section. On each side of the road there is a ravine in which flows an intermittent stream, which is permanent in the lower course. Cultivated land, divided among four farms, lies on each side of the highway. Woods, which cover the greater part of the section fill the ravines which limit the cultivated fields. The upper portion of one of the streams, where it crosses the cultivable area, flows through pasture. The northeastern patch of woodland is also pastured (Fig. 21).

The timber soil in the upland margin area is less rich than the upland prairie soil and less moist than the lowland timber soil. The presence of deep natural cutting on either side of the ridges allows rapid underground drainage. Hence, the fields are apt to be dry, and to suffer drought more readily than the prairies during rainless periods which sometimes occur. Soil wash is a matter of some concern. This, besides the dryness of the ridges, which is greater than the optimum for crops, is ruinous to agriculture. These conditions have results in the occupance of the land. Soil wash is of frequent occurrence, coarse sand being deposited around growing crops following many of the thunderstorms, which are not rare in the area. Northern Illinois, as a whole, has between thirty and forty days in a year on which there are thunderstorms.[36] Sometimes two or more will occur in succession on a single day. In early June the maize has been noted as not more than three or four inches high and poor and yellow. On

[36]Henry, A. J., *Climatology of the United States, Bull. Q*, Weather Bureau, United States Department of Agriculture, p. 75.

FIGURE 21—Pasture and pastured woods in the Princeton area. Note the tendency for the stream to meander, even though it lies on a youthful upland.

FIGURE 22—A ravine characteristic of the bluff borders of the Bureau upland.

the upland proper at the same time the corn was nearly twice as tall, in good health, and growing vigorously. The poor soils and wash of the ridges contribute to the poverty of that area. The buildings bear out the poverty of the soil, for the barns are small, sometimes with silos, sometimes without, but generally in bad repair, and the houses are but little better than the barns.

Other Upland Margins.—The margin of the upland is not everywhere digitate. The southwestern portion of the main upland east of Bureau Creek is free from conspicuous tributaries, although here and there are a few short ones. The west bank, immediately opposite across Bureau Creek, is similar. In these places the agriculturally more favorable conditions approach more closely to the bluff, so that except for the woods which cover the bluff and the edge of the upland where there are incipient ravines (Fig. 22), the upland conditions extend almost to the edge of the valley. The break between cultivated prairie, typical of Bureau, and the forested valley side occurs most often along a survey line. Cultivation extends up to a fence which marks its limits, and beyond which timber has been left standing. This sudden transition from cultivation to woods is one of the characteristic features of the cultural landscape of the margins of Bureau.

In this section of the inner margins of Bureau, east and west of Bureau Creek, nurseries and orchards are found. Although they add something to the economic well-being of the people owning them, they are not a matter of great chorographical consequence, because, occurring near the margins of Bureau, they blend into the woods along Bureau Creek, and, except when examined in detail, do not appear like the man-made additions to the landscape that they are.

FROM SEASON TO SEASON

Year in and year out, through the snowy cold of winter and the moist heat of summer, the inhabitants of the Princeton area have wrought in the land, modifying its surface, altering the courses of streams, plowing, sowing, cultivating, and harvesting crops of maize to be sold or fed to hogs. The farmer is tied to his crop, for corn needs frequent cultivation during the early part of its growing season. The yearly period of growth is limited by the killing frosts of spring and autumn. For the winter season, the farmer stays more closely at home, venturing into the fields only occasionally.

The out-of-door season of activity (April 15-November 15) corresponds to and slightly overlaps the average frost free period (May 1-October 15). Activity begins, after the ground has thawed out, with the plowing of such land as has remained unplowed through the winter, and which it is desired to use. The end of outdoor activity comes with the end of fall plowing, which is delayed beyond the beginning of frost longer than the end of frost is delayed beyond the beginning of plowing. After the end of outdoor activity comes the season of waiting and activity close to the farmstead.

As soon as all danger of frost is past, the seeds of the various crops are planted. Machinery is used for this purpose, grain drills, sowing some two or three acres per hour, and check-row corn planters, which plant the maize in checkerboard fashion at the corners of three feet squares making it convenient to cultivate, and carrying the rectangular expression of the government survey into the details of crop spacing.

When the crop appears above the ground cultivation must begin to keep weeds in check and to conserve moisture. This lasts more or less continuously until the corn is high enough to shade the ground, when it will check the weeds itself. Cultivation of corn is frequent at first, but less frequent as the season advances. What cannot be tilled as much as is desirable is tilled as frequently as possible. During the period of cultivation, which lasts from about the first of June till nearly the middle of August, part of the harvesting is done. Hay is cut and stored in the hay barns by the middle of July. Small grains are ready from then on. They are cut and shocked in the fields till dry, and then piled in stacks near the barn until threshing time. They may be stored in the barn if threshing is to be delayed. Threshing occurs during any free week after harvest, or, if done coöperatively, whenever those concerned can find spare days at the same time to do it.

From the middle till the end of September the corn is ready to cut. During this season, brown shocks of maize dot the fields. The ears dry on the stalks and are subsequently removed and stored in aerated cribs to dry further. This is generally done after frost occurs in the fall. Sometimes there is picking of ears from the standing grain.

Following the close of the harvest season, fall plowing sets in. This continues until done or until the freezing of the ground

prevents further activity. Then begins the long winter season of freedom from much outside activity.

From season to season the type of work changes, but from day to day the routine is much the same. Rising early, when rushed by sunrise or before, the farmer feeds his stock, milks the cows, if he has them, breakfasts, and is ready for the field as soon as the dew is evaporated, or before, if, as in the case of corn, dew is not going to be injurious to the crop. Work in the fields lasts till noon, when the hearty mid-day meal is eaten. Afterwards field work is resumed, and lasts till it is chore time in the evening. The care of stock is sometimes postponed until after the evening meal, if there is need for long hours in the field.

The relations of the soil to the life of the people of Bureau is expressed in the aspect of the cultural landscape, that of their relations to climate, in their seasonal activities. As regards the latter, the life of the farmer, then, is related to climatic conditions in such a way that it is possible to distinguish definite seasons of activity and degrees of activity. The early spring brings the rush of finishing plowing. With the advent of the season normally free from frost, long hours daily are spent in planting so that the crops may have as long a growing season as possible. Thence till the hay is ready, the cultivation of maize calls for less arduous work. It is leisurely compared to the rush of planting. Haying represents another peak of work about the first of July. Then more leisurely cultivation till midsummer brings the press of harvesting oats and the other small grains. In September threat of hard frost forces concentrated activity in harvesting the maize, for untimely frost may destroy the results of the season's labor. From then on till the relative dormancy of winter sets in, fall plowing takes place, which is not pressing unless there is much to be plowed and winter is setting in early.

In this way, from the end of April till the middle of November, the cultural landscape of Bureau is being moulded and changed by the activity of the inhabitants. The aspects of the land, as a result of this activity, changes from season to season, from the bare, unplanted fields of late spring to the snow powdered ones of early winter. When cold sets in, the busy inhabitants gather more closely about their homesteads, working in the vicinity of the house and barn. The cattle and hogs, deployed in the streamside pastures, are gathered into the narrower folds of winter, or are sold. This confining lasts till spring again releases the land

from snow and ice, and sets free the living creatures of the area to roam again in the pastures or in the fields where grain is to be grown.

BEYOND THE PRINCETON AREA

The little section of the Corn Belt which sends its produce to the town of Princeton for sale, is not unlike other sections similarly limited. On all sides Bureau is bounded by arbitrary lines, which do not mark a transition to actual cultural differences. Upstream and downstream along Bureau Creek, beyond the limits of the Princeton area, pasture, woods, and wooded pasture occupy the steeper slopes that face the valley. The houses and farms of the valley are small and poor, as they are in Bureau. Forest soils likewise follow the streams beyond the limits of the Princeton area. Beyond the prairie boundaries of Bureau lie endless cultivated fields, similar to those of Bureau, interrupted only by streams and their landscape consequences. From the center of any one of the adjoining areas presumably, one might go in all directions and not be conscious of change, until a city or a group of coal mines were reached. All this suggests the possibility that the Princeton area may very well represent a type.

If it be typical, then, following the pattern of Bureau, the features of the cultural landscape of other sections of the Corn Belt should be found to be arranged in a scheme related to drainage. In Bureau, most of the land was originally prairie, cut by Bureau Creek, and eroded here and there by tributaries of this stream. Along the streams there were oak woods when the first white settlers came, underneath which forest, rather than prairie, soils had developed. The present landscape, bearing the culture impressed by the society developed there, shows the prairie brought under cultivation. Maize is the principal crop, growing abundantly on the fertile dark-brown prairie loam in square or oblong fields. The rectangularity of the fields is the expression of the Ordinance (1785) by which the territory in the west to be opened for settlement was laid out.

The rectangularity of the fields is the symbol, perhaps, of a well ordered life, of a monotony of pursuit. It may be that all agriculture is similarly monotonous; the seasons impose a definite routine of sowing and harvesting. In Bureau the economic life is regulated by this climatic imposition. The pattern of this life, the raising corn to feed to hogs and cattle; the selling of hogs

and cattle; and the following of the same procedure year after year, is repeated throughout the sections of the Corn Belt. This routine of making a living, in the Princeton area, is impressed on the landscape in the cultural features which have been described, which are related directly or indirectly to the drainage pattern of the area. Throughout the Corn Belt, similar communities, living under similar economic conditions may have imprinted a similar cultural landscape on areally restricted complexes of the natural environment. The whole combination would be the landscape expression of the life of a community which lives articulated socially and economically to a central town, as Bureau does to its center, Princeton.